

# EXHIBIT I

JAMES TERTIN

Director of Research and Development, Magnum Research

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Peter K. Levitt, Esq.  
Donnelly, Conroy & Gelhaar LLP  
617-720-2880 / 857-413-5106 direct  
[pk1@dcglaw.com](mailto:pk1@dcglaw.com)

RE: Thomas R. Ahern v. Sig Sauer Inc. and the City of Cambridge

Dear Mr. Levitt,

Pursuant to your request, I have reviewed and analyzed the materials you provided me in connection with the above-captioned matter. I was not able to examine Mr. Ahern's Sig Sauer P320 ("P320"). My understanding is that he was issued a Sig Sauer P320 9mm pistol by the Cambridge Police Department ("CPD") as his duty weapon. It is my understanding that Mr. Ahern's pistol was issued to him after the "upgrades" were provided and performed by Sig pursuant to the Voluntary Upgrade Program.

I purchased a new Sig Sauer P320 9mm SN# 58J418148 (the "Sig P320 Exemplar") from a retail store in September 2023. The Sig P320 Exemplar was used for testing and evaluation and is the same model as Mr. Ahern's issued duty weapon.

All of my review and analysis, as well as formulations, hypothesis, and conclusions have been performed with accepted gunsmithing practices and through the use of scientifically sound methodologies. All opinions contained herein are held to a reasonable degree of technical, engineering and gunsmithing certainty. I reserve the right to modify my opinions as additional discovery becomes available.

#### **MATERIALS REVIEWED**

- Thomas Ahern's Amended Complaint (Jan. 7, 2022)
- Sig P320 operator's manual – Rev 8 (excerpt included in this report)
- Sig P320 operator's manual – City Response Production 3 000916-00991
- Sean Toner's Engineering report - 8/02/2021 from *Kyle Guay v. Sig Sauer, Inc.* (SIG-EXPERT000527-000548) from *Kyle Guay v. Sig Sauer, Inc.*, Civil Action No. 20-cv-736-LM, in the U.S. Dist. Ct. for the District of New Hampshire
- Derek Watkins Expert Report - 8/02/2021 from *Kyle Guay v. Sig Sauer, Inc.* (SIG-EXPERT000487-000526) from *Kyle Guay v. Sig Sauer, Inc.*, Civil Action No. 20-cv-736-LM, in the U.S. Dist. Ct. for the District of New Hampshire
- Tim Hicks Expert Report dated - 12/1/2023 in *Ahern v. Sig Sauer, Inc. and City of Cambridge*, Case No.: 1:21-CV-11007 in the U.S. Dist. Ct. for the District of Massachusetts.

- Sean Toner's Deposition in *Powers v. Sig Sauer, Inc.*, Case No., 2020-CA-1741 in the Circuit Court of the 12<sup>th</sup> Judicial Circuit in and for Manatee County, Florida, dated November 23, 2021
- Sean Toner's Deposition in *Slatowski v. Sig Sauer, Inc.*, 2:21-cv-00729, in the U.S. Dist. Ct. for the Eastern District of Pennsylvania
- Sean Toner's Deposition in *Ahern v. Sig Sauer, Inc. and City of Cambridge*, Case No.: 1:21-CV-11007 in the U.S. Dist. Ct. for the District of Massachusetts.
- I also reviewed approximately eight or nine videos in connection with my engagement in a different case in which the allegations were that a P320 had fired without a trigger pull. I do not have possession of these videos and do not recall which incidents they were. Upon request, I can endeavor to obtain this information.

### **SCOPE OF THIS REPORT**

The purpose of this report is to analyze the adequacy and sufficiency of the safety mechanisms on the Sig P320 pistol that I examined (i.e., the Sig P320 Exemplar which is same model that was issued to Mr. Ahern).

### **EXPERIENCE AND QUALIFICATIONS**

I am currently the director of Research and Development for Magnum Research, a firearms manufacturer and importer based in Pillager, Minnesota. In that role, I am responsible for designing and developing new firearm models.

I have been a professional gunsmith since graduating from Trinidad State College in Colorado in 1972. Trinidad is the oldest gunsmithing school in the USA. Over the past 50 years, I have been awarded 15 firearms design patents. My resume, which includes additional detail as to my professional background and experience, is included with this expert report and attached as Exhibit A.

### **INCIDENT SCENARIO**

On May 19, 2019, Mr. Ahern was in a SWAT van along with fellow officers. Mr. Ahern was holding his P320 with his right index finger along the frame, and outside the trigger guard when his P320 discharged one round without a trigger pull. He sustained injuries to his left thigh.

### **INSPECTION AND TESTING OF THE SIG P320 EXEMPLAR**

On September 20, 2023, I inspected and recorded data on a new P320. I was not able to inspect Mr. Ahern's department issued P320. Based on my evaluation of the pistol, I determined the following:

- Total trigger pull was 5 ½ pounds
- Trigger take up or free travel weight was 1 ¾ pounds
- Trigger take up was .083"
- Trigger movement to release the striker, after the take up, was .046"

- Total trigger movement to fire the pistol was .129"
- The actual sear height as measured with a blade depth micrometer was .041"

This is a single action type pistol, meaning the striker is fully cocked and resting under tension on the sear when the slide is forward. This "cocking" is accomplished by actuating the slide either manually, or by the result of firing a round. Trigger movement does nothing but release the striker, allowing it to travel forward and strike the primer of a chambered cartridge, thus causing it to fire. Trigger movement does not cause the striker to move rearward and be released by some other mechanical device.

Of note, there was a lack of any mechanical device on or in the pistol that would block the striker or sear to prevent the striker from being released or prevent the pistol from firing a live round. Such a mechanical device is commonly called a manual safety. A manual safety is commonly found on single action firearms of all types including rifles and shotguns. The absence of a manual safety makes it inherently dangerous to carry this model with a round loaded in the chamber because any inadvertent touch or brush of the trigger that exceeds 5 ½ pounds will fire the pistol un-commanded.

During my inspection, I also noted that both the surface of the sear that the striker contacts (see Figure 1 *supra*) and the foot of the striker that contacts the sear were not "qualified," meaning they were left as Metal Injected Molding ("MIM"). Qualifying can be defined as machining or grinding to an exact dimension and surface finish. A molded MIM surface is not smooth, as opposed to a smooth surface that machining or grinding would produce. It is not normal practice to leave such an important functional feature as the sear and striker interfacing with each other and in the molded un-machined condition. Generally, important surfaces such as the sear or striker are "qualified" by machining or grinding to obtain a perfect match to the opposing parts, as well as finished dimensional integrity and finish. Mr. Hicks in his report dated 12/1/2023, the "MIM" parts used by Sig in the manufacture of the P320 and their inherent variability since they are not machined, have flashing on the edges and radiused edges. He concludes that the use of non-machined MIM parts that interface with each other increases the likelihood of an un-commanded discharge. Based on my training and experience, I agree with this assessment.

The P320 sear and striker are neither machined, nor ground to an exact dimension or surface finish. During my inspection, I noted that the sear itself was held in the vertical position by springs. These springs required a downward force of only 3 pounds to drop the sear and allow the striker to move forward and fire the pistol. I measured the tension on the sear spring with a trigger weight gauge that is certified at 5 pounds. Since the sear is not blocked or held in an exact position -- rather it floats, by placing a pin pinch on the engagement surface of the sear and applying downward pressure -- it is susceptible to dropping with some external force, thus causing the pistol to discharge.

The striker is located in the slide. The sear is located in the frame. The two parts must interface solidly and consistently every time the pistol is cycled or fired. The slide moves horizontally on steel "rails" located in the fire control unit on a P320. These rails are formed by a metal stamping process that again is not qualified. They are not machined, nor ground to an exact dimension. The unqualified rails allow varying degrees of vertical movement between the striker

and sear from one pistol to another. I have seen this variation on the many P320 pistols that I have examined. The vertical movement on my test pistol is .018,” as measured with feeler gauges. I have observed approximately eight P320s with this movement and measured three of them. I have measured other P320s for vertical movement of the slide, which have resulted in vertical movements of .021” and .019.” This vertical movement impacts the sear striker relationship even when the striker is under spring tension. The greater the vertical movement, the less pressure on the sear holding back the striker.



Figure 1 (SEAR)

To test the effectiveness of both the striker safety block and the Sig designed secondary sear notch that was promoted as an important upgrade in the Voluntary Upgrade Program, I performed testing on the sample P320. I cut the bottom portion off of the slide plate located at the rear of the slide. In doing so, I was allowed visibility to both the sear and the striker -- i.e. I was able to see how the sear and the striker engaged with each other. I had a blank cartridge loaded in the pistol for this test to indicate whether the pistol fired, or whether one of Sig’s internal safeties kept the pistol from firing. In this test, I manually depressed the sear, rather than pulling the trigger, as evidenced on the video embedded in this report.

To start, the test the P320 was in the cocked, ready-to-fire position. I slowly depressed the sear allowing the striker to release. The result was the striker safety lever caught the striker. I re-cocked the pistol. The striker was now engaged with the sear again. I then inserted a small brass

block in the trigger guard that I fashioned to simulate a finger taking up the “free play,” or travel, within the trigger. I then slowly depressed the sear again to release the striker. The resulting bang indicates that the striker completely missed the secondary sear notch and fired the blank cartridge. Had the secondary sear notch functioned as Sig claims, the pistol would not have fired. The conclusion of this simple test clearly shows the secondary sear upgrade that Sig has offered to its customers actually fails in a real field-simulated test.

Sean Toner, the lead team designer for the P320 for Sig Sauer, testified that “[t]he intercept notch was installed or designed so that if the sear moves out of position without the trigger being pulled, the intercept notch would come back up and catch the striker so you won't have a fire. It's a secondary sear notch is what we call it.” Deposition of Sean Toner in *Ahern v. Sig Sauer, Inc., & City of Cambridge*, at 90-91 (11/15/23).

My scientific testing clearly shows this does not happen. The secondary sear notch fails when manipulated as Mr. Toner suggests. By manually disengaging the striker/sear relationship in a cocked P320, I was easily able to demonstrate the sear moving out of position, allowing the striker to move forward unimpeded which allowed the pistol to fire without a trigger pull. The video marked as Exhibit 1 demonstrates my performance of this test.

## **EVALUATION OF SIG P320 #58J418148 (THE SIG P320 EXEMPLAR)**

### **1. Single Action v. Double Action**

For a pistol to fire, a cocked firing mechanism must release the striker or hammer, which hits the firing pin, moving it forward and allowing it to make contact with the primer of the cartridge. The two types of firing mechanisms available are hammer-fired firearms and striker-fired firearms. These pistols are referred to as “hammer-fired” or “striker-fired” respectively. Every firearm is designed such that the pull of the trigger releases the firing mechanism, allowing it to strike the primer of the cartridge.

Prior to the firing mechanism being released, the firearm mechanism must first be cocked and under spring tension. Once it is cocked, the firearm mechanism is in position to be released.

In a single-action firearm, the firing mechanism is cocked prior to the trigger being pulled, by some action other than the pull of the trigger. The trigger serves the sole purpose of releasing the firing mechanism. In the case of the P320, forward movement of the slide cocks the striker against the sear. The P320 is then ready to fire. The P320 has no design provision to “de-cock” the pistol, nor does it have any mechanical device to block the trigger or sear to prevent an accidental discharge as mentioned earlier. This mechanical device is often called an external manual safety that can be engaged or disengaged quickly at the user's discretion.

In a “double-action” firearm, the firing mechanism is not cocked prior to the trigger pull. The pull of the trigger serves to both cock and release the firing mechanism. Accordingly, the pull of the trigger of a double-action firearm is significantly longer, and requires more consistent pressure over the length of the trigger pull to cock and release the firing mechanism. Kahr Arms, for

example, makes many models of firearms, some of which have no manual safeties, but they are all double action.

On a single-action firearm, since the firing mechanism is already cocked, minimal movement of the trigger is required to release the mechanism from the sear and fire the pistol. For this reason, a manual safety, such as a thumb safety or a tabbed trigger is necessary to ensure that such a firearm can be handled safely.

## **2. The P320 is a Single-Action Pistol**

The P320 functions as a single-action, striker-fired pistol. The striker in this pistol is cocked by movement of the slide. As the slide moves forward the striker engages with the sear and then the slide fully closes. At this point the pistol is cocked and ready to fire before any trigger movement. The trigger pull serves only to drop the sear and release the striker.

I performed a test on the Sig P320 Exemplar to determine if the trigger pull serves only to drop the sear and release the striker. On May 22, 2022, I used a Bridgeport Mill to cut out a section of the Sig P320 Exemplar slide, making the striker visible, but still allowing the pistol to function. I filmed the striker before, during, and after several trigger pulls. The videos embedded in this report establish that the striker is fully charged by the forward motion of the slide, and any trigger pull serves only to drop the sear and release the striker.

The trigger pull causes a negligible amount of rearward movement of the striker, but such movement is due to the angulation of the sear engagement surface. This movement does not cock or provide tension to the striker; rather it is merely a byproduct of the design of the sear lowering. I measured this movement to be .012" (twelve thousandths of an inch), or about 2.5% of the total rearward movement of the striker. Of note, the striker remains in contact with the sear at all times during the trigger pull up until the point it is released from the sear.

I performed the same test on a Glock Model 19. The cutaway clearly shows that the resulting action of pulling the trigger serves to both cock and release the striker. The Glock is a double-action pistol. Glock promotes this mechanism as their "safe action design." I measured the Glock striker's rearward movement to be .362", which confirms that the trigger movement clearly cocks and releases the striker.

As provided above, the negligible reward movement of the striker caused by the trigger pull is caused by the angulation of the sear itself, and does not serve the purpose of cocking the striker in any meaningful way.





Figure 2 (Exposed Striker on a M17 Model P320 with the Striker Under Tension)

### 3. Requirements for External Safeties on Single-Action Firearms

All engineers must follow the design hierarchy when considering the safe design of a product. They must first try to eliminate the hazard through design. If unable to eliminate the hazard through design, an engineer must implement the necessary safeguards to minimize the risk of such hazards, or as a last resort, provide warnings to the end user.

Even though many double-action firearms on the market also contain one of the three primary types of external safeties, as discussed in detail below, it is even more imperative that single-action firearms have a manual external safety that prevents an un-commanded discharge. Simply put, the trigger travel distance of a single-action firearm is so short that it makes it easy for the trigger to be inadvertently actuated by a part of the user's body or a foreign object. For that reason, to the best of the undersigned's knowledge, there is no single-action firearm on the market without a manual external safety, or tabbed trigger, other than those manufactured by Sig Sauer (the P320 and P365). Kahr Arms, for example, makes many models of firearms, some of which have no manual safeties, but they are all double action.

The only two single action pistols on the market today with no external manual safeties that I have found are the Sig P320 and P365. Despite Sig Sauer's marketing of the effectiveness of the P320's internal safeties, those safeties do nothing to prevent un-commanded trigger movement and do not remain engaged until the set point is reached.

Sean Toner, the team lead designer for the P320, testified that the only purpose of a manual safety on a single action firearm is to prevent the exposed hammer from being struck and causing the firearm to discharge. Deposition of Sean Toner in *Slatowski v. Sig Sauer, Inc.*, 2:21-cv-00729



(USDC, E. Dist. PA) at 121:2-21. In fact, the safety on a single-action firearm will block and mechanically lock the hammer, sear or trigger bar so that it is not possible to pull the trigger and accidentally discharge the firearm. Sig Sauer's 322 pistol has an internal non-exposed hammer. It is equipped with a manual external safety. Mr. Toner's evaluation of the purpose of a manual external safety on a hammer-fired pistol -- stating that it is to prevent an object from striking the exposed hammer -- contradicts Sig Sauer's own 322, which has no exposed hammer.

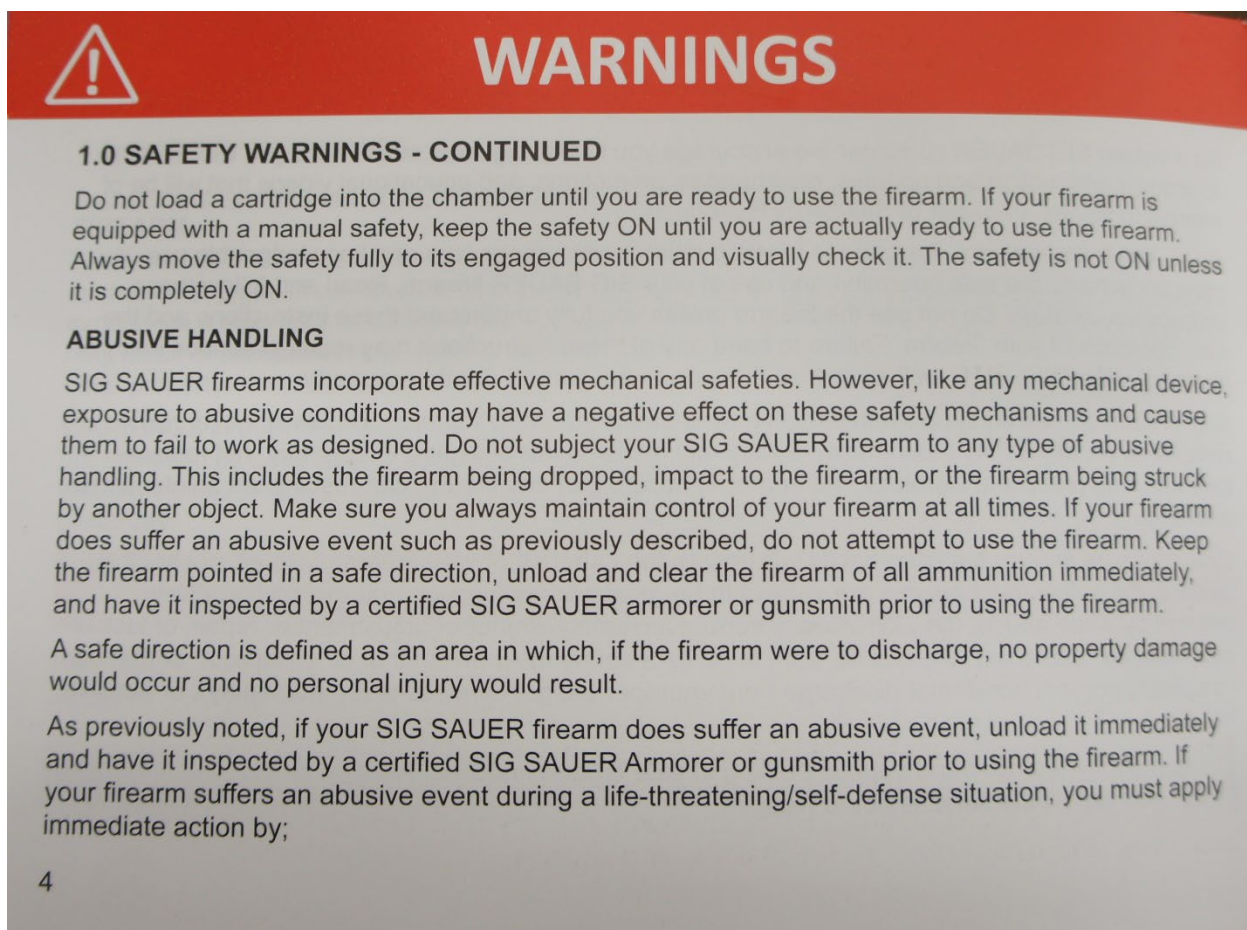
#### **4. Design Defect of Sig P320 Internal Safeties**

Lacking any sort of external safety to prevent inadvertent discharges, the P320 relies exclusively on internal safeties to prevent inadvertent discharges. Sig Sauer routinely claims that the P320's internal safeties are sufficient to prevent unintended discharges. An analysis of the internal safeties establishes that they are disengaged with exceptionally little manual effort, and are disengaged during the "free travel" and before the trigger is actuated. *See* Exhibit 1 (evaluation of Sig P320 #58J418148). Unfortunately, once the internal safeties are disengaged, the pistol becomes susceptible to discharge without a trigger pull. Further, these safeties are not visible to the user, who cannot be reasonably expected to understand how they function and if they are functioning as intended.

The P320 incorporates two major internal safety features, the striker-sear engagement and the striker lock. The striker-sear engagement on my example P320 sample pistol measures only .041". For the striker to disengage from the sear, without the striker safety block engaged, it would only have to travel .041". Such a disengagement can be caused by vibration, jostling, or contact with another P320.

Sig Sauer acknowledges in its owner manual for the P320 that exposure to acute conditions (e.g., shock, vibration, heavy or repeated drops) may have a negative effect on these safety mechanisms and cause them to fail to work as designed. *See* City Response Production Bates 3 000940

Sig Sauer also acknowledges in its owner's manual, for the P320 (Rev 8) that exposure to acute conditions (e.g., firearm being dropped, impact to firearm or firearms being struck by another object) may have a negative effect on these safety mechanisms and cause them to fail to work as designed.



*Sig Owner's Manual Rev 8*

The situations described by Sig Sauer (i.e. firearm being dropped, impact to firearm or firearms being struck by another object) may have a negative effect on these safety mechanisms and cause them to not work as designed. Sig Sauer admits the mechanical safety systems in the P320 (including the .041" striker-sear engagement) can fail when the firearm is exposed to these acute conditions. The second major internal safety is the safety striker lock. This striker lock serves to block the striker pin from moving forward in the event that the striker-sear engagement is lost.

Given the minimal trigger movement within the "pre-travel" phase before trigger actuation is required to disengage the internal safeties, a foreign object or pressure against the holster can cause the pistol to be unacceptably vulnerable to a discharge without an intentional trigger pull, without the user's finger ever being on or near the trigger. I have reviewed several videos and analyzed the conditions that would allow the trigger to be grazed and allow the pistol to fire, and have concluded that a tabbed trigger would prevent these discharges. In fact, Glock advertises that the purpose of the tabbed trigger is to prevent the gun from drop-firing or firing unintentionally, as noted in the screenshot below.

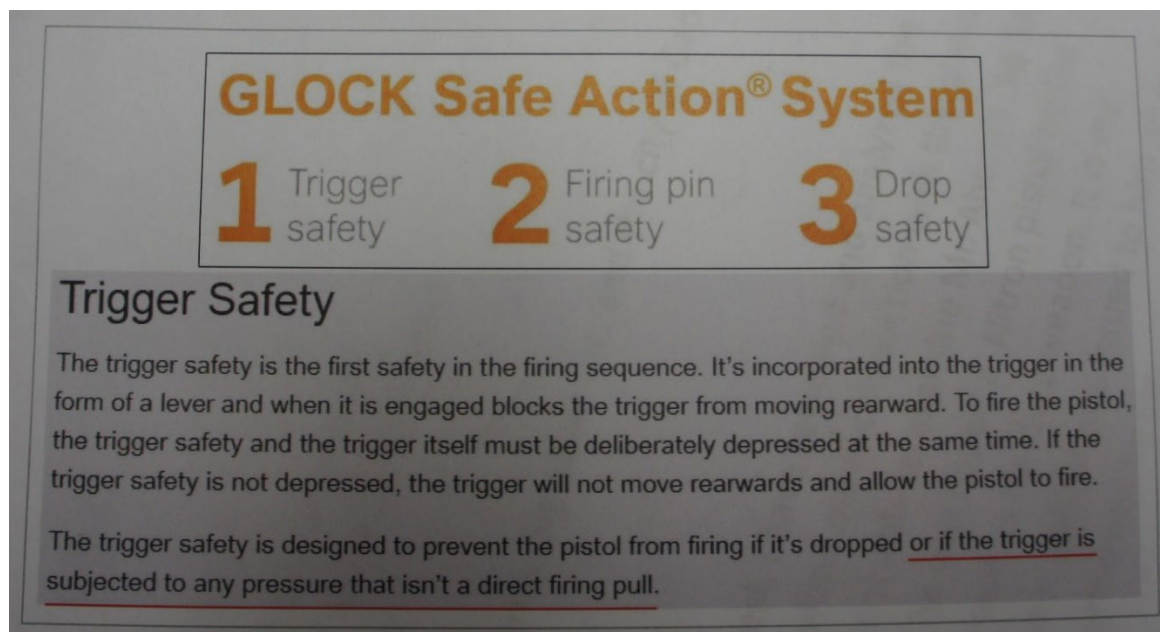


Figure 3 (Explanation of GLOCK Safe Action System)<sup>1</sup>

## 5. Types of Manual External Safeties

There are three primary types of external manual safeties that can be equipped on a striker fired semi-automatic pistol: thumb safeties, grip safeties and tabbed trigger safeties. Each helps prevent unintentional discharges by mechanically blocking the trigger from being pulled, until the user decides they are ready to fire the pistol. Any of the three could have been designed and incorporated into the P320 with minimal cost or disruption to the pistol's functionality.

### A. **Thumb Safety**

A thumb safety is a switch on the side of the pistol that can be flipped on or off with the user's thumb. Typically, the thumb safety is flipped up to lock the mechanism and put the pistol in a safety mode. The user can flip the switch down to unlock the mechanism and to put the firearm in a ready-to-fire position. Unless and until the thumb safety is flipped down, the trigger cannot be actuated. A thumb safety takes the user a small fraction of a second to flip into "fire mode." The added fraction of a second that it takes the user to disengage the manual thumb safety is well worth the massive safety benefit of preventing accidental discharges in single action semi-automatic pistols. Nearly every P320 sold to law enforcement and private consumers is not equipped with a thumb safety. The military version of the P320 is equipped with an ambidextrous thumb safety, which the military required in its contract with Sig. The thumb safety does not prevent military personnel equipped with the P320 from performing their duties and instead makes the military version of the P320 substantially safer for our men and women in uniform.

<sup>1</sup> Reference: <https://us.glock.com/en/learn/glock-pistols/safe-action-system>.



Figure 4 (P320 M17 with Thumb Safety)

**B. Grip Safety**

A grip safety is a lever on the grip of the pistol that must be depressed to fire the pistol. A grip safety requires virtually no effort on the part of the user because the user's hand naturally depresses the safety as they hold the pistol. Sig Sauer uses the grip safety on several of its 1911 models. Sig Sauer's competitor, Springfield Armory, uses a grip safety on its striker fired XD series. Another top competitor of Sig Sauer, Smith and Wesson, uses a grip safety on their popular M&P Shield EZ series.



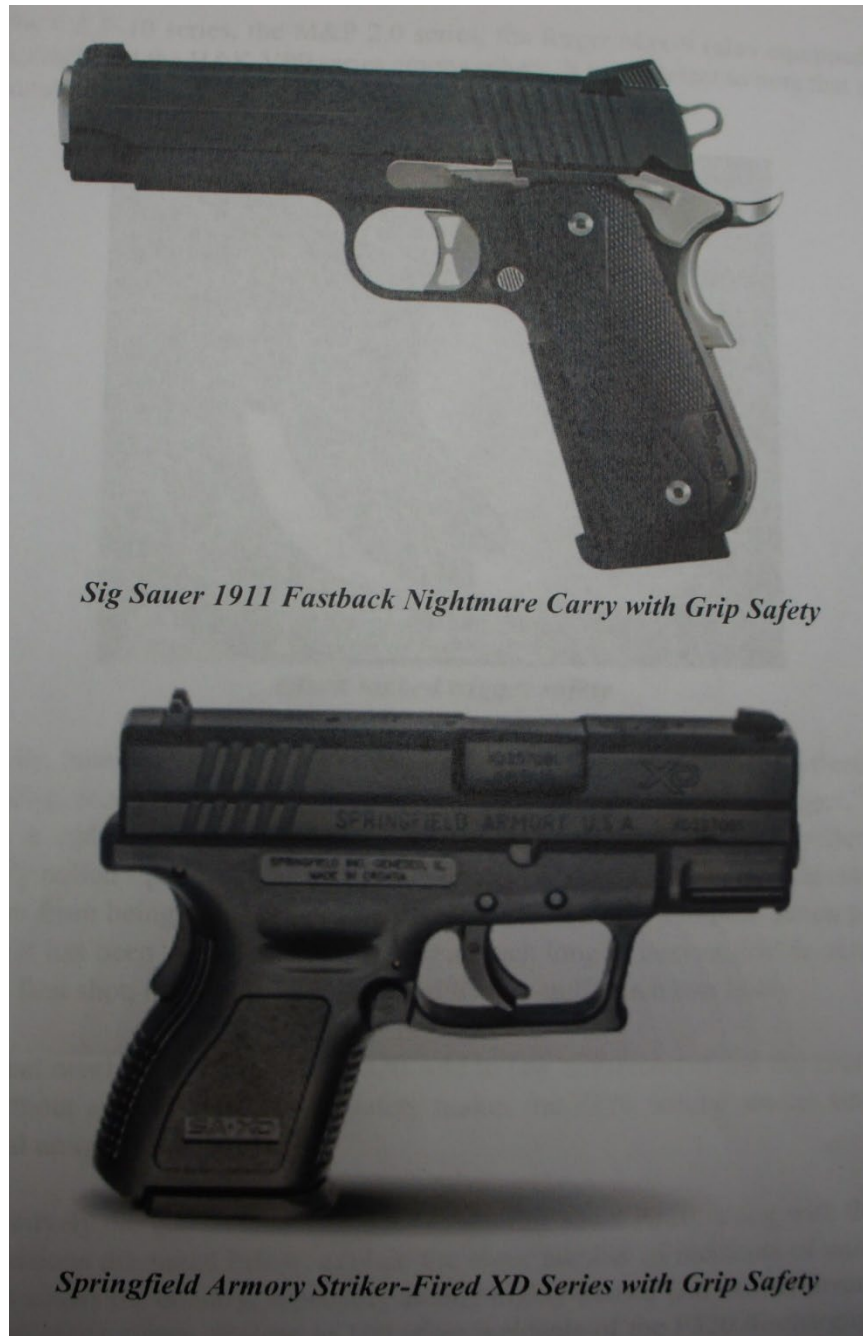


Figure 5 (Firearms with Grip Safety)

### C. Trigger Safety

A trigger safety, the most widely used type of safety for striker fired pistols, is a small tab within the trigger that must be depressed for the trigger to fully depress and fire the pistol. Trigger safeties effectively and efficiently prevent accidental discharges because they require a user's finger to be placed squarely on the center of the trigger prior to the pistol being discharged. Therefore, the

user is required to deliberately place their finger on the trigger in order to fire the firearm. Trigger safeties are found on all Glock striker fired pistols, Springfield's Hellcat series, Springfield XD series, Walther PDP series, Walther PPQ series, Walther Q5 series, Taurus GX4 series, CZ P-10 series, S&W M&P 2.0 series, Ruger Max-9 series (which also has a thumb safety) and H&K V9P series, among others. A tabbed trigger was permitted in the U.S. Immigration and Customs Enforcement ("ICE") contract with Sig Sauer for the P320.



Figure 6 (Glock Trigger Safety)

#### **D. Other Safeties**

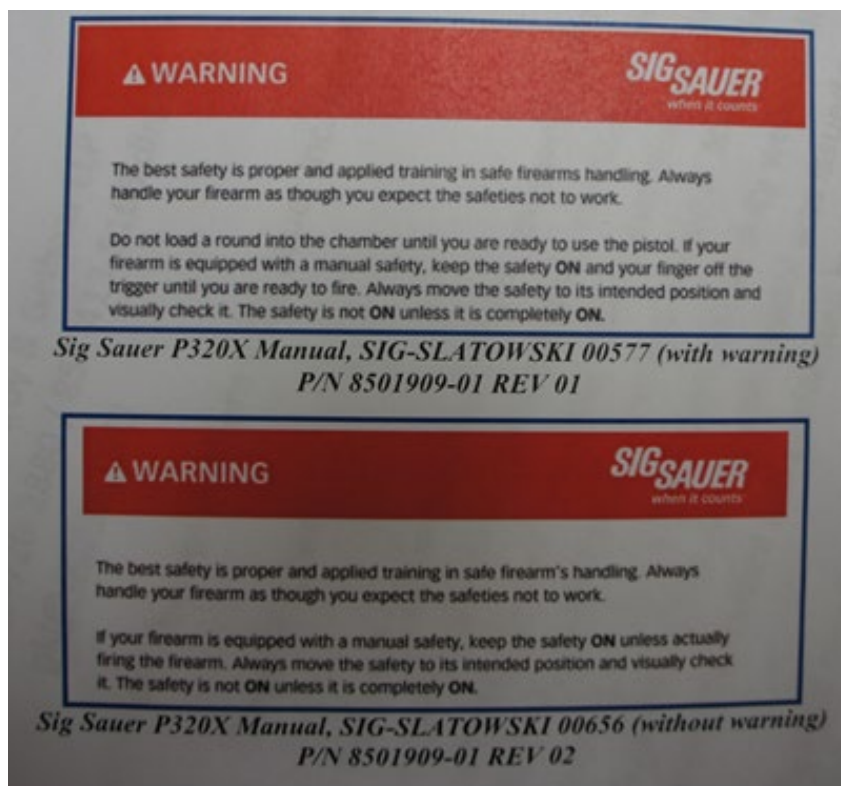
Additionally, there are two forms of manual safeties that are less common, yet still serve as effective means of preventing accidental discharges. The first is a "hinged trigger," which is similar to a tabbed trigger because it prevents the trigger from being pulled unless the user deliberately pulls squarely on the trigger, to disengage the lower portion of the trigger and unlock the trigger, thereby allowing for the trigger pull to be completed, and for the firearm to fire. The second manual safety mentioned above is a "de-cocker," which releases the striker mechanism from a single action "ready to fire" mode, to a double-action mode. A de-cocked pistol will have a longer, and much heavier, double-action trigger pull on its first shot, making an unintended trigger pull much less likely. I have been made aware of close to 100 other incidents of the P320 discharging when the user believes they did not touch or pull the trigger. On several of these occasions, Sig Sauer claimed the trigger was pulled by a foreign object like a seatbelt. I have reviewed several videos of un-commanded discharges of the P320 where the user does not pull the trigger. A manual safety like a



de-cockers would make an un-commanded discharge much less likely, and is a safety that is able to be used quickly and extremely effectively. In fact, Sig Sauer employed de-cockers years ago on the 226 model and other models, which are still produced today. The fact that nearly every P320 sold to both law enforcement and the general public is sold without any type of manual or trigger safety makes the P320 uniquely and inherently dangerous among single-action pistols. The distinctively dangerous characteristics of the P320, along with the internal design decisions discussed below, explain the sheer number of incidents of unintentional discharges across the country, especially among highly trained and highly skilled users of firearms. The P320 is uniquely capable of such a discharge because of its short, single-action lightweight trigger pull along with its complete lack of any sort of safety that would block the firing mechanism and prevent the pistol from discharging.

## 6. Lack of Warnings

The danger posed by a single action pistol without a manual safety can be mitigated by carrying the pistol without a round in the chamber. A user carrying the Sig P320 when it is “not loaded and not ready to fire” is protected against accidental discharge caused by the P320’s extremely short trigger travel distance. Upon review of P320 owner’s manuals (*see* SIG-Slatowski 00577; SIG-Slatowski 00656), I found that some manuals have added a warning that appears to caution against carrying the P320 with a round in the chamber, but other manuals do not. Based on revision numbers of the manuals, it appears that Sig Sauer removed the warning from their manuals.



Despite Sig Sauer warning against the practice, Mr. Toner testified that Sig is aware that some users would carry their P320’s with a round in the chamber. Deposition of Sean Toner in *Slatowski v. Sig Sauer, Inc.*, 2:21-cv-00729 (USDC E. Dist. PA) at 116:6-117:1. Mr. Toner testified

that it would not be “wrong” for a user to carry the P320 with a round in the chamber, despite the manual warning against it. *Id.* at 117:2-20. Sig Sauer was clearly aware that the practice of carrying the P320 with a round in the chamber was dangerous, but nevertheless manufactured the single action P320 pistol without an external manual safety.

Additionally, the manual fails to warn users that the P320 is functionally a single-action pistol. In my 50 years of experience in the firearms industry, I have reached the opinion that the average consumer does not understand the complicated internal mechanisms of a pistol. An ordinary user can be expected to know how to operate and care for their firearm, but not fully understand the way the component parts work together to make the firearm fire. For that reason, an average P320 user likely would not appreciate the fact that the P320 is a single-action pistol rendered unreasonably dangerous due to the lack of an external manual safety.

## **7. The Glock Striker Fired System**

Sean Toner, the lead team designer for the P320 for Sig, confirmed during deposition testimony that Sig Sauer’s biggest competitor in the striker fired pistol market is Glock. Deposition of Sean Toner at 46:22-48:6. Glock produces a series of striker fired pistols that are extremely popular, both in consumer markets and with law enforcement. Glock produces the standard side arms for the FBI, U.S. Navy Seals, U.S. Customs and Border Control, Los Angeles Police Department, Philadelphia Police Department, Washington D.C. Police Department, Atlanta Police Department, Baltimore County Police Department, and the British Army, among others. Glocks do not have a manual thumb safety or grip safety. They are significantly safer than the P320, however, because of the “safe action” design and tabbed safety trigger. The double-action safe action design and tabbed trigger serves to prevent accidental discharges.

Unlike the P320, all Glock pistols are double action pistols. The trigger pull on a Glock both cocks and releases the striker. This results in a much longer trigger pull, which in turn makes the pistol far more difficult to accidentally discharge. On March 24, 2022, I measured the trigger travel distance of an example Glock Model 19. The trigger travel distance to discharge the pistol was .223”, under full weight of the spring for the entire distance, whereas the P320 model has a .041” trigger pull under full weight of the spring. In addition,, all Glock pistols are equipped with a bladed trigger safety. As provided above, the trigger safety (or tabbed trigger) is a highly effective tool to prevent unintended discharges. For those reasons, a Glock is a far safer striker fired pistol than the P320.

## CONCLUSIONS

1. The P320 is a single-action pistol. The striker is cocked and under full tension, resting against the sear, prior to the pistol firing. The sear (under spring tension) is the only part in the P320 that holds the striker in the “firing position.”
2. The P320’s trigger does not meaningfully cock the striker, and it only serves to release the striker.
3. Single-action pistols must have some type of manual external safety that blocks the trigger or sear. Such a manual external safety will prevent the trigger from being inadvertently discharged. The extremely short distance that the P320 trigger must travel to release the striker creates a high risk of accidental or uncommanded discharge.
4. The P320, as designed, is generally not equipped with any manual external safeties.
5. The P320 issued to Mr. Ahern was not equipped with a manual safety of any type.
6. The inclusion of a manual thumb safety on a military P320 model, the M17, demonstrates that it is possible for the P320 to be equipped with a safer alternative design (i.e., a manual thumb safety) and still be an effective weapon in the high stress and quick reaction atmosphere of military combat.
7. The P320 and Sig Sauer P365 are the only single action pistols sold today in the United States for general use that are available without any type of manual safety.<sup>2</sup>
8. The P320 is available on order with a manual safety as an option.
9. The P320 is defectively designed as it has a very crisp, or short, single-action trigger pull without an external manual safety. It is too easy for the trigger to be accidentally actuated.
10. The Sig designed internal safety lock is deactivated prior to the pistol firing; in fact, it is deactivated as the “free travel” is taken up on the trigger.
11. The P320 sear is held in the vertical position by springs alone. These springs retain the sear-striker relationship. Springs are susceptible to being compressed by being dropped, or by other outside forces, any of which could cause an uncommanded discharge.
12. The rails on a P320 are stamped, unqualified, and vary in dimensional integrity.
13. The sear and striker on the P320 are in MIM condition. Neither has been qualified to an exact dimension or finish. The two parts “mate” in the final assembly of the firearm, and as such, they may or may not be a perfect match to each other.

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<sup>2</sup> There are some pistols designed solely for use in shooting competitions that are single action with a manual safety.

14. An ordinary user of the P320, without detailed knowledge of the internal mechanics of the pistol, would not recognize how dangerously defective and out of the ordinary the P320 design is.

15. Sig Sauer was aware that some users would carry the pistol with a round in the chamber, despite acknowledging in some of its manuals that the practice was dangerous.

Dated: December 1, 2023

/s/ James A. Tertin  
James A. Tertin

**JIM TERTIN**

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12606 33<sup>rd</sup> Ave SW Pillager MN 56473 • (218) 820-0969 cell • (218) 746-2214 work

**EXPERIENCE:**

- 2019 -**        *Magnum Research, Pillager MN*  
R&D and Design consultant. Semi retired and now developing new Firearms related products.
- 2005 - 2019**   *Magnum Research, Pillager, Minnesota*  
Director of Manufacturing
- ◆ Start up manufacturing in Pillager facility for Desert Eagle, Micro Eagle, Baby Eagle and MLR Rifles as well as uni-directional graphite wrapped barrels
  - ◆ Design products
  - ◆ Interview and hire employees
  - ◆ Design floor layout and internal manufacturing systems
  - ◆ Design and build buildings
  - ◆ Completed 5 year no-compete with Magnum Research in April 2010
- 2000-2005**
- ◆ Started Contract Manufacturing, Inc, an S-Corp owned by myself
  - ◆ Designed and put into production a five shot large caliber revolver  
-Sold exclusively to Magnum Research
  - ◆ Designed and put into production a high end semi-auto rim-fire rifle  
-Sold exclusively to Magnum Research
  - ◆ Sold revolver and rifle to Magnum in 2005 and entered into a 5 year no compete with them while functioning as Director of Manufacturing
  - ◆ Reverse engineered the Desert Eagle Pistol and put it into production in the USA
- 1996-2000**        *Acrometal, Brainerd, Minnesota*  
Director of Manufacturing
- ◆ Set up assembly and infrastructure to build Weatherby rifles in Brainerd, MN where they are still produced
  - ◆ Worked with Weatherby on design of new “lightweight” MK5 rifle and put it into production in Brainerd MN.
  - ◆ Sourced suppliers, designed and built assembly area and fixtures
  - ◆ Interviewed and hired employees
  - ◆ Worked closely with Weatherby on contracts and scheduling
- 1979-1996**        *Gander Mountain, Wilmot, Wisconsin*

Director of Gunsmithing

- ♦ Was part of the team that opened the first Gander Mountain retail store
- ♦ Responsible for gunsmithing services and firearms sales
- ♦ Designed infrastructure and systems to accommodate major growth in retail
- ♦ Designed and put into production “Fox River Brake” –recoil reducing device for rifles and revolvers
- ♦ Implemented installation of replaceable shotgun chokes through the mail
- ♦ Designed and built “central gunsmith” to accommodate huge growth and demand on gunsmithing services as stores were expanding
- ♦ Developed in house warranty for six firearms manufacturers and three bow manufacturers
- ♦ Designed, built and implemented a new rifle stock pattern and worked closely with McMillan Fiberglass Stock Co.
- ♦ Created the “Straight Shooter” publication and maintained its mailing list
- ♦ 24 years’ experience as a custom gun builder

**1990-1991**

*Paul Jaeger, Inc.*, Grand Junction, Tennessee  
Executive Vice President

- ♦ Purchased, managed and budgeted the gunsmithing, retail and manufacturing operations of this Dunn’s subsidiary. Managed Jaegers with a hands-on approach and remained very active in gunsmithing and custom gun building

**1971-1979**

*Rusk Gun Shop*, Madison, Wisconsin  
Gunsmith

- ♦ Repair and service oriented gunsmithing
- ♦ Retail sales
- ♦ Custom gunsmithing
- ♦ Machine operation, Bluing
- ♦ Customer Service

**1976-1977**

*Anton’s Custom Stocks*, Waterloo, Iowa  
Custom Stock maker

- ♦ Building and fitting custom stocks including hand checkering

**EDUCATION:**

*Trinidad State College*, Trinidad, Colorado  
Graduated 1971, top 5% of class. A.A.S. degree

**PERSONAL:**

Married, three children. Interests include hunting, fishing, camping, wildcat cartridges, reloading, shooting, bird hunting and bird dogs.



Cases I have testified in within the last 4 years:

Slatowski vs Sig Sauer, Inc.,  
2:2021cv00729 (Eastern District of Pennsylvania)

Herman vs. Sig Sauer, Inc.,  
5:21-cv-01038 (Western District Oklahoma)

Davis vs. Sig Sauer, Inc.,  
3:2022cv00010 (Eastern District of Kentucky)

Colwell vs Sig Sauer, Inc.,  
1:2021cv01200 (Northern District of New York)

Powers vs Sig Sauer, Inc.,  
8:2020cv02026 (Middle District of Florida)

- Originally filed in Manatee County Circuit Court Florida, but was removed to Federal District Court

Lang vs. Sig Sauer, Inc.,  
1:2021cv04196 (Northern District of Georgia)

My service rate for this case is:

\$200.00 per hour for discovery

\$250.00 per hour for depositions and trial